Annualized Maintenance Costs for BMPs

(Based on Best Available Information)

Facility Type	Size Charcteristic	Surface Area of BMP (Acres)	Impervious Drainage Area to BMP (Acres)	Volume of BMP	Depth (Below Ground) of BMP	Annual O&M Costs	Annual Certification Costs	Annual O&M and Certification Costs	Annualized Major Repair and Replacement Costs (1/3 Annual O&M/Cert Costs)	Total Annualized Ownership Costs	20 Times Annual Maintenance Costs
				Source: Dr. Bill Hunt's Study							
Wet Pond	Small	0.2				$1,920	$800	$2,720	$639	$3,359	$67,187
	Medium	2				$2,560	$1,000	$3,560	$852	$4,412	$88,250
	Large	5				$3,090	$1,200	$4,290	$1,029	$5,319	$106,379
Stormwater Wetland	Small	0.2				$1,550	$800	$2,350	$516	$2,866	$57,323
	Medium	2				$1,650	$1,000	$2,650	$549	$3,199	$63,989
	Large	5				$2,630	$1,200	$3,830	$876	$4,706	$94,116
Dry Pond	Small	0.2				$850	$800	$1,650	$283	$1,933	$38,661
	Large	2				$2,020	$1,000	$3,020	$673	$3,693	$73,853
Bioretention Area[1]	Small		0.5			$2,488	$800	$3,288	$829	$4,117	$82,330
	Large		1			$3,110	$1,000	$4,110	$1,036	$5,146	$102,913
Open Sand Filter[1,2]	Small		0.5			$2,488	$800	$3,288	$829	$4,117	$82,330
	Large		1			$3,110	$1,000	$4,110	$1,036	$5,146	$102,913
Closed Sand Filter[1,2,3]	Small		0.5			$3,732	$800	$4,532	$1,243	$5,775	$115,495
	Large		1			$4,665	$1,000	$5,665	$1,553	$7,218	$144,369
				Source: Old Surety Calculation Methodology							
Underground Det System	Small			7,250 CF	10-ft	$1,390	$800	$2,190	$463	$2,653	$53,057
	Large			12,150 CF	11.5-ft	$3,684	$1,000	$4,684	$1,227	$5,911	$118,215
				Source: None							
Rainwater Harvesting System[4]	Small			2,000 Gal		$1,390	$800	$2,190	$463	$2,653	$53,057
	Large			10,000 Gal		$3,684	$1,000	$4,684	$1,227	$5,911	$118,215
Proprietary BMP[5]	n/a					$1,244	$800	$2,044	$414	$2,458	$49,165
Level Spreader[6]	n/a					$498	$800	$1,298	$166	$1,463	$29,266

Note 1: Annual O&M and Major Repair and Replacement Cost Estimates for Bioretention Areas and Sand Filters Serving a .5 Ac Drainage Area are Estimated to be 80% of the Costs for Bioretention Areas and Sand Filters Serving a 1 Ac Drainage Area.

Note 2: Estimates for Open Sand Filters are Extractions Based on Dr. Hunt's Bioretention Area Studies.

Note 3: Estimates for Closed System Sand Filters are Assumed to be 1.5 * the Cost of Open Sand Filters.

Note 4: Estimates for rainwater harvesting systems are estimated to be the cost of maintaining an underground detention system.

Note 5: Estimates for Proprietary Devices are Estimated to be 50% of the Costs for "Small" Bioretention Areas.

Note 6: Estimates for Level Spreader Devices are Estimated to be 20% of the Costs for "Small" Bioretention Areas.